## **IBIS Common Format**

Version 0.1

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### TODO:

- Expand on the explanations of a Compendium serialization
- Articulate the rules for assigning link types
- Trim unnecessary attributes
  - Subject to dialogues

## Background

A DTD that specifies the XML serialization for IBIS elicitation platforms is specified. The specification has been created based on dialogues among the following individuals related to particular IBIS platforms:

- Jack Park—Compendium
- David Price—DebateGraph
- Mark Klein—Deliberatorium

### **Differences and Restrictions**

There are known differences among the three platforms. Those differences suggest certain restrictions to capabilities as follows:

- Common Node Types
  - Question (Issue)
  - Answer (Position)
  - o Map
  - o Pro Argument
  - o Con Argument
- ELEMENT = node ATTRIBUTE = "label"
  - Restricted to 70 characters

### **Behaviors**

#### **Nested Maps**

Compendium is known to permit *nested maps*. That is, Compendium captures maps as *view elements*, each view serving as a container for the nodes captures in the map node for which it stands. Other platforms are free to treat nested maps by ignoring the nesting feature. For instance, in an *outline* view, nested maps might appear as follows:

```
Root Map
Question
Answer
Pro Argument
Con Argument
Map
Answer
Pro Argument
```

#### **Nodes Serialized But Not Included in Common Format**

Suggested behavior: ignore those nodes.

### **Multiple Pages of Details from Compendium**

Candidate suggested behaviors:

- Restrict Compendium to one page of details
- When multiple pages are detected:
  - o concatinate and trim as needed

### **ELEMENT = view ATTRIBUTES = Xposition and Yposition**

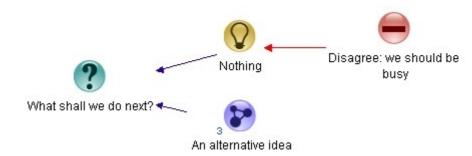
Suggested behaviors:

- Import: ignore unless its useful or can be transformed to local coordinates
  - Compendium will need to deal with auto arrange when it encounters "0" as values
- Export: default to "0"

## Simple Example XML Serialization from Compendium

See **Appendix A** for the XML serialization.

A simple dialogue map with a nested map node was created to demonstrate a Compendium XML document. The full dialogue takes two images to display: Figire 1 and Figire 2.



Figire 1: Outer (root) Map



Figire 2: Nested Map

# **Examining a Compendium Document**

The outer element is <model rootview="...">

A *model* is a container for the following:

views

- o view
- nodes
  - o node
    - details
      - page
- links
  - o link
    - linkviews
      - linkview

#### Models and Views and their Relation to Nodes

Note: Many of the attributes are slated to be removed from the Common Format DTD.

viewref refers to a view, synonymous with a map. noderef refers to a *node* identifier. Further explanation is necessary.

In Compendium, there is a Map node that is created in a *project*. That is the outer view. Its viewref points to a noderef that represents that outer map. That noderef becomes the viewref for the outer map such as Figire 1. The noderefs of *that* viewref will be the nodes contained in that view. In our example, one of those nodes is a map node. It becomes a new viewref, the noderefs for which are the nodes in the nested map, such as Figire 2.

#### **Nodes and Details**

```
<nodes>
<node id="19216811011237140096791" type="2" extendedtype="" originalid="" author="jackpark" created="1237140096775" lastModified="1237140096775" label="Home Window" state="2" lastModificationAuthor="jackpark">
<details>
<page nodeid="19216811011237140096791" author="jackpark" created="1237140096775" lastModified="1237140096775" pageno="1">Home Window of jackpark</page>
</details>
</node>
</nodes>
```

Note that *details* are paged. In Compendium, there is the editorial option to create pages of details.

#### Links

## **Node Types**

From the Compendium source file IcompendiumConstants

```
/**
* This represents a map, which is a container for other nodes and links.
* This can be used to:
* - create a 'picture' of the relationships between ideas;
* - group questions and ideas together in meaningful clusters;
* - create associative links between nodes.
*/
public final static int
                                     MAPVIEW
                                                                                  = 2;
/** This represents a Question or Issue for discussion. */
                                     ISSUE
public final static int
                                                                           = 3;
/** The represents an Answer or Position, often in response to a question or issue.*/
public final static int
                                     POSITION
                                                                           = 4;
/** This represents a response in favour of an answer or position. */
public final static int
                                     PRO
                                                                                  = 6:
/** This represents a response against an answer or position. */
public final static int
                                     CON
                                                                                  = 7;
```

NOTE: In Compendium, there are occasions where a node is used more than once, prompting a *shortcut* type. A shortcut type is the node type + 10: a MAPVIEW shortcut = 12.

## Link Types

link \*/

public final static String

From the Compendium source file IcompendiumConstants

//LINK TYPES /\*\* Indicates the Node at the FROM end of the link responds to the Node at the TO end of the link \*/ public final static String RESPONDS TO LINK /\*\* Indicates the Node at the FROM end of the link supports the Node at the TO end of the public final static String SUPPORTS LINK = "40": /\*\* Indicates the Node at the FROM end of the link objects to the Node at the TO end of the link \*/ OBJECTS TO LINK public final static String = "41": /\*\* Indicates the Node at the FROM end of the link challenges the Node at the TO end of the link \*/ public final static String CHALLENGES LINK = "42"; /\*\* Indicates the Node at the FROM end of the link is a specialization of the Node at the TO end of the link \*/ public final static String SPECIALIZES LINK /\*\* Indicates the Node at the FROM end of the link expans on the Node at the TO end of the link \*/ public final static String EXPANDS ON LINK /\*\* Indicates the Node at the FROM end of the link is related to the Node at the TO end of the link \*/ public final static String RELATED TO LINK = "45": /\*\* Indicates the Node at the FROM end of the link is about the Node at the TO end of the link \*/ public final static String ABOUT LINK = "46";

/\*\* Indicates the Node at the FROM end of the link resolves the Node at the TO end of the

RESOLVES LINK

= "47":

/\*\* Indicates which link type is the default link type - Currently the 'Related To Link' \*/
public final static String DEFAULT\_LINK = "45";

### DTD

The following DTD is a subset of the Compendium DTD

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<!ELEMENT model (views, nodes, links, codes, meetings*)>
<!ATTLIST model
      rootview CDATA #REQUIRED
>
<!ELEMENT page (#PCDATA)>
<!ATTLIST page
      nodeid CDATA #REQUIRED
      author CDATA #REQUIRED
      pageno CDATA #REQUIRED
      created CDATA #REQUIRED
      lastModified CDATA #REQUIRED
<!ELEMENT details (#PCDATA | page)*>
<!ELEMENT detail (#PCDATA)>
<!ELEMENT linkview (#PCDATA)>
<!ATTLIST linkview
      id CDATA #REQUIRED
>
<!ELEMENT linkviews (#PCDATA | linkview)*>
<!ELEMENT link (#PCDATA | linkviews)*>
<!ATTLIST link
      id CDATA #REQUIRED
      created CDATA #REQUIRED
      lastModified CDATA #REQUIRED
      author CDATA #REQUIRED
      type CDATA #REQUIRED
      originalid CDATA #REQUIRED
      to CDATA #REQUIRED
      from CDATA #REQUIRED
      label CDATA #IMPLIED
      arrow CDATA #REQUIRED
<!ELEMENT links (#PCDATA | link)*>
<!ELEMENT node (details*, detail*, source, image, background, coderefs, shortcutrefs,
mediaindexes*)>
<!ATTLIST node
      id CDATA #REQUIRED
      type CDATA #REQUIRED
      extendedtype CDATA #REQUIRED
      originalid CDATA #REQUIRED
      author CDATA #REQUIRED
      created CDATA #REQUIRED
      lastModified CDATA #REQUIRED
      label CDATA #REQUIRED
      state CDATA #REQUIRED
      lastModificationAuthor CDATA #IMPLIED
```

```
>
<!ELEMENT nodes (node+)>
<!ELEMENT view (#PCDATA)>
<!ATTLIST view
      viewref CDATA #REQUIRED
     noderef CDATA #REQUIRED
      XPosition CDATA #REQUIRED
      YPosition CDATA #REQUIRED
      created CDATA #IMPLIED
      lastModified CDATA #IMPLIED
      showTags CDATA #IMPLIED
      showText CDATA #IMPLIED
      showTrans CDATA #IMPLIED
      showWeight CDATA #IMPLIED
      smallIcon CDATA #IMPLIED
      hideIcon CDATA #IMPLIED
      labelWrapWidth CDATA #IMPLIED
      fontsize CDATA #IMPLIED
      fontface CDATA #IMPLIED
      fontstyle CDATA #IMPLIED
      foreground CDATA #IMPLIED
      background CDATA #IMPLIED
>
<!ELEMENT views (view+)>
```

## APPENDIX A—XML Serialization of TrivialMap Example

Note: some elements, e.g. <code> and <coderef> where hand removed as not applicable to the common DTD.

```
<model rootview="19216811011237140096791">
<views>
 <view viewref="19216811011237140096791" noderef="19216811021244938183265"</p>
XPosition="201" YPosition="236" created="1244938183265" lastModified="1244938183265"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938183265" noderef="19216811021244938215031"</p>
XPosition="207" YPosition="28" created="1244938215031" lastModified="1244938215031"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938183265" noderef="19216811021244938202218"</pre>
XPosition="16" YPosition="68" created="1244938202218" lastModified="1244938202218"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938183265" noderef="19216811021244938232984"</p>
XPosition="316" YPosition="20" created="1244938232984" lastModified="1244938232984"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938183265" noderef="19216811021244938256703"</pre>
XPosition="177" YPosition="106" created="1244938256703" lastModified="1244938256703"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938256703" noderef="19216811021244938315859"</p>
XPosition="144" YPosition="20" created="1244938315859" lastModified="1244938315859"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938256703" noderef="19216811021244938304531"</pre>
XPosition="16" YPosition="59" created="1244938304531" lastModified="1244938304531"
showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
 <view viewref="19216811021244938256703" noderef="19216811021244938322937"</pre>
XPosition="142" YPosition="98" created="1244938322937" lastModified="1244938322937"
```

showTags="true" showText="true" showTrans="true" showWeight="true" smallIcon="false"

```
hideIcon="false" labelWrapWidth="25" fontsize="12" fontface="Dialog" fontstyle="0"
foreground="-16777216" background="-1">
 </view>
</views>
<nodes>
 <node id="19216811011237140096791" type="2" extendedtype="" originalid=""
author="jackpark" created="1237140096775" lastModified="1237140096775" label="Home
Window" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811011237140096791" author="jackpark" created="1237140096775"</pre>
lastModified="1237140096775" pageno="1">Home Window of jackpark</page>
 </details>
 <source></source>
 <image width="0" height="0"></image>
 <br/>background></background>
 <shortcutrefs>
 </shortcutrefs>
 </node>
 <node id="19216811021244938183265" type="2" extendedtype="" originalid=""
author="jackpark" created="1244938183265" lastModified="1244938190734" label="TrivialMap"
state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938183265" author="jackpark" created="1244938183265"</pre>
lastModified="1244938190734" pageno="1"></page>
 </details>
 <source></source>
 <image width="0" height="0"></image>
 <br/>background></background>
 <shortcutrefs>
 </shortcutrefs>
 </node>
 <node id="19216811021244938215031" type="4" extendedtype="" originalid=""
author="jackpark" created="1244938215031" lastModified="1244938217953" label="Nothing"
state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938215031" author="jackpark" created="1244938215031"</pre>
lastModified="1244938217953" pageno="1"></page>
 </details>
 <source></source>
 <image width="0" height="0"></image>
 <br/>background></background>
 <shortcutrefs>
 </shortcutrefs>
 </node>
 <node id="19216811021244938202218" type="3" extendedtype="" originalid=""
author="jackpark" created="1244938202218" lastModified="1244938211281" label="What shall
we do next?" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938202218" author="jackpark" created="1244938202218"</pre>
lastModified="1244938211281" pageno="1"></page>
 </details>
```

```
<source></source>
 <image width="0" height="0"></image>
 <br/>background></background>
 <shortcutrefs>
 </shortcutrefs>
 </node>
 <node id="19216811021244938232984" type="7" extendedtype="" originalid=""
author="jackpark" created="1244938232984" lastModified="1244938245625" label="Disagree: we
should be busy" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938232984" author="jackpark" created="1244938232984"</pre>
lastModified="1244938245625" pageno="1"></page>
 </details>
 </node>
 <node id="19216811021244938256703" type="2" extendedtype="" originalid=""
author="jackpark" created="1244938256703" lastModified="1244938262109" label="An
alternative idea" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938256703" author="jackpark" created="1244938256703"</pre>
lastModified="1244938262109" pageno="1"></page>
 </details>
 </node>
 <node id="19216811021244938315859" type="3" extendedtype="" originalid=""</pre>
author="jackpark" created="1244938315859" lastModified="1244938318562" label="What
about?" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938315859" author="jackpark" created="1244938315859"</pre>
lastModified="1244938318562" pageno="1"></page>
 </details>
 </node>
 <node id="19216811021244938304531" type="4" extendedtype="" originalid=""
author="jackpark" created="1244938304531" lastModified="1244938308187" label="Let's"
write a story" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938304531" author="jackpark" created="1244938304531"</pre>
lastModified="1244938308187" pageno="1"></page>
 </details>
 </node>
 <node id="19216811021244938322937" type="6" extendedtype="" originalid=""</pre>
author="jackpark" created="1244938322937" lastModified="1244938326265" label="Sounds
good" state="2" lastModificationAuthor="jackpark">
 <details>
  <page nodeid="19216811021244938322937" author="jackpark" created="1244938322937"</pre>
lastModified="1244938326265" pageno="1"></page>
 </details>
 </node>
</nodes>
links>
 link id="19216811021244938254109" created="1244938254109"
lastModified="1244938254109" author="jackpark" type="39" originalid=""
from="19216811021244938215031" to="19216811021244938202218" label="" arrow="1">
 kviews>
```

```
linkview id="19216811021244938183265"/>
 linkviews>
 </link>
 link id="19216811021244938264671" created="1244938264671"
lastModified="1244938264671" author="jackpark" type="39" originalid=""
from="19216811021244938256703" to="19216811021244938202218" label="" arrow="1">
 kviews>
  linkview id="19216811021244938183265"/>
 linkviews>
 </link>
 link id="19216811021244938249562" created="1244938249562"
lastModified="1244938249562" author="jackpark" type="41" originalid=""
from="19216811021244938232984" to="19216811021244938215031" label="" arrow="1">
 linkviews>
  linkview id="19216811021244938183265"/>
 linkviews>
 </link>
 link id="19216811021244938321125" created="1244938321125"
lastModified="1244938321125" author="jackpark" type="39" originalid=""
from="19216811021244938315859" to="19216811021244938304531" label="" arrow="1">
 linkviews>
  linkview id="19216811021244938256703"/>
 </linkviews>
 </link>
 link id="19216811021244938328765" created="1244938328765"
lastModified="1244938328765" author="jackpark" type="40" originalid=""
from="19216811021244938322937" to="19216811021244938304531" label="" arrow="1">
  linkview id="19216811021244938256703"/>
 </linkviews>
 </link>
</links>
</model>
```